Background on Rules Development for HB 1257

The Department of Commerce is authorized by HB 1257 to develop rules for the adoption of the Washington State Energy Performance Standard for Commercial Buildings. HB 1257 requires Commerce to use ANSI/ASHRAE/IES standard 100-2018, Energy Efficiency in Existing Buildings (standard) as the basis for these rules. Rules will be implemented that adopt the standard by reference, with amendments.

Amendments to the standard will be made to make the standard consistent with the features prescribed in HB 1257. The standard will also be modified to clarify administrative procedures. Additional rules may be required outside of this standard as well.

The following draft rule has been developed by Commerce staff. Then modifications to the various sections of the standard are made to provide consistency between the rule and HB 1257.

Interested parties are encouraged to review standard 100 and modifications made by Commerce staff. Input can be provided on any element that will align the standard with the legislation or existing state laws, clarify application, or improve administrative procedures.

Stakeholders are invited to participate in workshops scheduled to review specific sections of this work. Commerce request that written post workshop comments relating to sections covered at each workshop be received within by the scheduled time period posted on the Commerce Clean Buildings Web site. All comments will be posted on the buildings web site.

Submit comments via email; buildings@commerce.wa.gov.
Review comments and schedules on the Commerce Clean Buildings web site: http://commerce.wa.gov/buildings

When editing the standard, please use a standard markup format that includes the following:

- Copy the entire sub-section to be edited
- Underline text to be added
- Use cross out text to indicate deletions
- Provide a reason statement for the change

For any new sections, provide suggested location in the document by referencing the previous section.

Comments Specific to this Draft

The following provides a review draft for ASHRE Standard 100, Sections 7,8 and 9. This will be the basis for review and editing for individuals and organizations that want to make comment.

The following changes are included to help the reader with their review.

- There has been a good deal of concern about unique energy using features, spaces and end uses spaces not directly recognized by this standard. I think this is well covered by the exceptions to section Exceptions to 7.2.3. We have modified the base standard to clarify what we determined to be the intent of the original standard.

- The standard did not provide a pathway for buildings without comprehensive metering. These buildings can't demonstrate compliance. We have addressed this by noting that these buildings must comply with the pathway offered for buildings without energy targets (nontarget). You will see this applied in several places in this draft
- Normative Annex X is referenced in a good number of places. Normative Annex X will establish the guidelines for buildings that wish to comply with this standard under the Investment criteria. We will have some discussion documents ready by the April 15 workshop, with a comment draft and timeline issued independent of this draft
- Annex X will
    - Outline the chronological process for Audits, Reporting, Implementation, and Owner opportunities to remove individual measures that don't pay for themselves or to delay implementation due to existing equipment still having remaining useful lives.
    - Adopt NIST Handbook 135 methodology for Life Cycle Cost Analysis with state specific values for Discount Rate, Inflation Rate, Fuel Escalation Rates, and Study Period.
    - Adopt ASHRAE Standard 211 section 5.5.3 as the core description of covered costs while providing details on included costs and savings not appropriately detailed within Standard 211.

7. ENERGY-USE ANALYSIS AND TARGET REQUIREMENTS

7.1 Building Type and Energy Targets

7.1.1 Building Type. *Buildings* are divided into 53 types with activities as shown in Table 7-1. *Buildings* with one or more activities listed in Table 7-1 have *energy targets* as shown in Table 7-2a. ~~or 7-2b.~~

~~**7.1.2 Energy Targets.** Site-based *energy targets* are shown in Tables 7-2a in both I-P and SI units, while source-based *energy targets* are shown in Tables 7-2b in both I-P and SI units. *Site energy* electricity use and fossil fuel use targets listed in Tables 7-2c and 7-2d are for use in target calculations by *authorities having jurisdiction*.~~

~~All *energy targets* were derived from Commercial Building Energy Consumption Survey (CBECS) 2003 and Residential Energy Consumption Survey (RECS) 2005 data by Oak Ridge National Laboratory (ORNL) and the U.S. Department of Energy (USDOE) and represent the 25th bottom (low energy) percentile of energy use by each *building* category.~~

~~The median numbers for each *building* category from CBECS and RECS data representing all *buildings* in the *building* type/activity across all climatic conditions were extrapolated to 17 USDOE climate zones using multipliers generated through simulation of a representative *building* for each group of *building* categories. Informative Annex J gives a detailed explanation of target table derivation.~~

~~***Informative Note:*** Tables 7-2c and 7-2d should not be applied separately for individual energy sources. The tables are used in accordance with Normative Annex A, Equation A-1, to determine the appropriate *source energy target*.~~

7.2 Determining Energy Target (EUI_t)

7.2.1 The ~~*energy manager* (*EM*) or~~ *qualified person* shall determine the *energy target* (EUI_t) according to Section 7.2.2 for single-type/activity *buildings* and Section 7.2.3 for mixed use *buildings*, and shall complete Form B.

7.2.2 *Energy targets* for *buildings* with a single activity shall be calculated as follows:

$$(EUI_t) = S \times (EUI_{t1})$$

where (EUI_{t1}) is the *building* activity *energy target* value in Table 7-2a ~~or 7-2b~~ for the appropriate *building* activitie~~s~~/type~~s~~ and climate, and S is the *building* operating shifts normalization factor in Table 7-3.

7.2.3 *Energy targets* for *buildings* with multiple activities shall be determined using weighted averages of *building* activity *energy target* for each area with a single activity, per the following equation, and reported on Normative Annex C, Form B:

$$EUI_t = (A \times S \times EUI_{t1})_1 + (A \times S \times EUI_{t1})_2 + \ldots + (A \times S \times EUI_{t1})_i + \ldots + (A \times S \times EUI_{t1})_n$$ where

$(A)_i$ =percentage of the gross floor area with single *building* activity *i*

$(EUI_{t1})_I$ = *building* activity target from Table 7-2a or 7-2b for space i

$(S)_i$ =operating shifts normalization factor from Table 7-3 for space *i*

$(A \times S \times EUI_{t1})_i$ = the weighted space *EUI* target for space *i*

Exceptions to 7.2.3: The *energy target* (EUIt) of a building may be modified using the following exceptions. None of these exceptions may be used to change the total gross floor area as it applies to section 4.4.1.* Reporting Schedule.

1. Spaces where more than 75% of the gross floor area has a ~~unique~~ *building* activity listed in Table 7-1 shall be reported as a single-use *building* or as a multiuse *building* in accordance with either Section 7.2.2 or Section 7.2.3.

2. Spaces less than 10% of the gross floor area with a ~~unique~~ *building* activity listed in Table 7-1 can combine their floor area with the floor area within the *building* that has a similar *building* activity as determined by the ~~*EM* or other~~ *qualified person*.

3. Spaces in *buildings* or spaces with multiple activities that are not listed in Table 7-1 and have a total combined area $\sum A_{nontarget}$ comprising less than 10% of the *building* gross floor area A_{gross} can be excluded from *building energy target* calculations if the energy use of such space is metered separately. The *energy target* for the remaining part of the *building* shall be calculated after deducting the unlisted *building* type floor area from the *building* gross floor area ($A_{gross} - \sum A_{nontarget}$). Nontarget spaces shall be limited to the floor area occupied by the notarget activity and shall not include supporting spaces such as halls, common areas or other space types listed in Table 7-1.

4. Spaces in *buildings* with multiple activities that are not listed in Table 7-1 and have a total combined area $\sum A_{nontarget}$ comprising less than 50% of the *building* gross floor area A_{gross} can be excluded from *building energy target* calculations if the energy use of such space is metered separately and the nontarget spaces comply with Sections 4.1, 4.2, 4.3.1, and 4.3.3. The *energy target* for the remaining part of the *building* shall be calculated after deducting the unlisted *building* type floor area from the *building* gross floor area ($A_{gross} - \sum A_{nontarget}$). Nontarget spaces shall be limited to the floor area occupied by the notarget activity and shall not include supporting spaces such as halls, common areas or other activity types listed in Table 7-1.

~~4. Spaces in multiple-activities buildings, with activities not listed in Table 7-1, comprising more than 10% but not more than 50% of the gross floor area shall comply with either Section 7.2.3, Exception 3, or Sections 4.1, 4.2, 4.3.1, and 4.3.3.~~

7.2.4 Energy Targets for Vacant and

Partially Vacant Buildings

7.2.4.1 The *energy target* for a 100% vacant *building* shall be based on its prevacancy activity if the intended use of the *building* will be unchanged.

7.2.4.2 If the total floor area of a nonheated, noncooled, and nonilluminated vacant part of a *building* is smaller than 30% of the gross floor area, then it shall be excluded from the gross floor area, and the *energy target* shall be determined based on the remainder of the *building* as described in Section 7.2.3. This allowance may not be used to change the total gross floor area as it applies to section 4.4.1.* Reporting Schedule.

7.2.4.3 If the vacant part of a *building* is heated and/or cooled and the *building* energy-use data for a recent 12 consecutive month period when the *building* was occupied is not available, compliance of this part of the *building* will be determined after it becomes occupied and energy-use data become available for 12 consecutive months.

Section 7 Tables

Table 7-1 Commercial and Residential Building Types/Activities – To be modified by WA specific target setting work.

Table 7-2a Building Activity Site Energy Targets (EUIt1) (I-P Units) - To be modified by WA specific target setting.

Table 7-3 Building Operating Shifts Normalization Factor – To be retained or modified consistent with WA target setting work.

All other Section 7 Tables – Not used

SECTION 8 Comment Draft (incomplete)

8. ENERGY AUDIT REQUIREMENTS

8.1 The *qualified energy auditor* shall complete Forms D and/or E and submit to the *authority having jurisdiction* (*AHJ*). If an energy audit is required within this section, a copy of the audit summary results shall be included in the compliance documentation in a format specified by the AHJ. Compliance with this standard shall be achieved by adopting *energy efficiency measures* (*EEMs*) that collectively will reduce annual *building* energy use. Fuel switching shall not be permitted for this purpose unless the fuel switching reduces on site carbon emissions. ~~saves annual *energy costs*.~~

8.2 Energy Audit Requirements for Buildings without Energy Targets and Buildings without Comprehensive Energy Metering.

8.2.1 Overall Process. An energy audit shall be conducted for all *buildings* not having an *energy target*. Buildings without comprehensive energy metering shall follow the audit requirements for buildings without energy targets, unless otherwise noted. The energy audit and the associated energy audit report shall be completed by a *qualified energy auditor* practicing within their field of competency. The energy audit shall be a Level 3 ~~2~~ audit ~~(~~as defined in Section ~~8.4.2~~ **8.4.3**~~)~~. ~~For a *building* having a gross floor area 10,000 ft^2 (1000 m^2) or less, either a Level 1 audit (as defined in Section 8.4.1) or a Level 2 audit (as defined in Section 8.4.2) shall be conducted.~~

Exceptions to 8.2.1:

1. Exception: Buildings that develop implementation plans that will meet their target may use the Level 2 energy audit.

2. Buildings that have completed an energy audit within the previous three years may use the results of the previous audit, provided that the scope of the energy audit meets the requirements of this section and that there have been minimal changes to the systems within the audit scope. The energy audit must be evaluated consistent with the economic evaluation criteria in Normative Annex X.

8.2.2 The scope of the energy audit shall include the following required end uses as applicable to the *building*:

- Envelope
- Lighting
- Cooling
- Heating
- Ventilation and exhaust systems
- Air distribution systems
- Heating, chilled, condenser, and domestic water systems
- Refrigeration except for food processing refrigeration
- Power generation equipment
- Uninterruptible power supplies and power distribution units

- People-moving systems

8.2.3 The following end uses are not included in this standard:

- *Industrial processes*
- Agricultural processes
- Irrigation

8.2.4 Following the completion of the energy audit, the *building owner* will select and implement *EEMs* per the requirements of Section 9.

8.3 Energy Audit Requirements for Buildings with Energy Targets

8.3.1 Buildings that Meet Their Energy Targets. *Buildings* that meet their *Energy targets* under Section 7 are not required to perform an energy audit.

8.3.2 Buildings that Do not Meet Their Energy Targets Overall Process. An energy audit shall be conducted, and an associated energy audit report shall be provided, for all *buildings* that do not meet their *energy target*. The energy audit shall be completed by a *qualified energy auditor* practicing within their field of competency. The energy audit shall be at an audit level specified by the *qualified energy auditor* to be sufficient to identify and evaluate the *EEMs* that, if implemented, would result in the *building* meeting its *energy target*. The *qualified energy auditor* may refer to the list of potential *EEMs* in Informative Annex E.

After the completion of the audit and the selection of *EEMs* to be implemented, the applicant must calculate an adjusted *energy-use intensity* (*EUI*) for the *building* based on the estimated energy savings from the selected *EEMs* and the historical energy use of the *building*. This adjusted *EUI* is then compared to the *energy target* for the *building*. If the adjusted *EUI* is less than the *energy target*, the applicant shall proceed with implementation as specified in section 9. ~~(see Section 9)~~. If the adjusted *EUI* is greater than the *energy target*, a more rigorous energy audit investigation is required to identify additional *EEMs*. This process is repeated until the *building*'s adjusted *EUI* is less than its *energy target*.

Calculation of the adjusted *EUI* is shown in the following equation:

$$EUI_{adj} = (\text{Energy}_{hist} - \text{Energy}_{saved})/\text{GFA}$$

where

Energy_{hist}	=	historical annual energy use, kBtu (MJ)
Energy_{saved}	=	estimated annual energy savings, kBtu (MJ)
GFA	=	gross floor area, ft^2 (m^2)

Following the completion of an energy audit that has identified *EEMs* sufficient to meet the *building*'s *energy target*, the applicant shall implement those *EEMs* per the requirements of Section 9.

Exception to 8.3.2: *Buildings* that have completed an energy audit within the previous three years may use the previous energy audit to identify *EEMs* for implementation, provided that the scope of the energy audit meets the requirements of this section and there have been minimal changes to the systems within the audit scope.

In this case, the same comparison of adjusted *EUI* to *energy target* shall be made by the applicant. If the *EEMs* identified in the audit are still applicable, have not been implemented, and if implemented would result in the *building* meeting its *energy target*, these measures shall be implemented by the facility, and the project shall follow the procedures in Section 9. If the identified *EEMs* do not result in an adjusted *EUI* less than the *energy target*, a new energy audit shall be conducted as described Section 8.3.2.

8.4 Energy Audit Levels. This section outlines the requirements for Level 1, ~~and~~ Level 2 and Level 3 energy audits for *buildings*.

8.4.1 Level 1 Audit. *Buildings* shall perform a Level 1 audit (walk-through analysis) as defined in *ANSI/ASHRAE/ACCA Standard 211-2018 Standard for Commercial Building Energy Audits*, Section 5.3. ~~ASHRAE's *Procedures for Commercial Building Energy Audits*, 2nd Edition [5].~~

8.4.2 Level 2 Audit. *Buildings* shall perform a Level 2 Audit (energy survey and engineering analysis) as defined in *ANSI/ASHRAE/ACCA Standard 211-2018 Standard for Commercial Building Energy Audits*, Section 5.4. ~~ASHRAE's *Procedures for Commercial Building Energy Audits,* 2nd Edition [5].~~

8.4.3 Level 3 Audit. *Buildings* shall perform a Level 3 Audit (energy survey and engineering analysis) as defined in *ANSI/ASHRAE/ACCA Standard 211-2018 Standard for Commercial Building Energy Audits*, Section 5.5.

8.5 Energy Audit Report. This section prescribes the overall approaches and methods to be used in the energy audit report for audits completed under Sections 8.4.1 or 8.4.2.

8.5.1 Audit Results. The energy audit report shall define the actions necessary for the *building owner* to achieve the energy and cost savings that are recommended in the report. Energy audit results shall be presented in a summary table that includes, at a minimum, an estimate of each of the following:

- A list of recommended *EEMs* that, if implemented, will either meet the *energy target* for the *building* if it has a target or, if it does not have an *energy target*, will meet the economic criteria set by the standard in Section 9 or, if the building does not have comprehensive energy metering, will meet the economic criteria set by the standard in Section 9.
- The estimated energy savings and peak demand savings associated with each recommended *EEM*, expressed in the cost units used on the *building owner*'s energy bills, and the units used for comparison with the *energy target*.
- The estimated (modeled) *energy cost* savings associated with each recommended *EEM*.
- The estimated cost of implementation for each recommended *EEM*. The costs of implementation shall include the required monitoring of energy savings per the requirements of Section 9.
- The *simple payback* and savings to investment ratio ~~return on investment (ROI)~~ for each recommended *EEM.* ~~or bundle of *EEMs.*~~

- ~~The *simple payback* of the *optimized bundle* of *EEMs* that will achieve the *energy target* for *buildings* with *energy targets* or meet the financial criteria set out standard for *buildings* that do not have *energy targets*.~~
- The *savings to investment ratio* for the optimized bundle of energy efficiency measures for buildings complying under the investment criteria as required by Normative Annex X.
-

When considering multiple *EEMs* with *interactive effects*, the order of analysis shall start with load reduction measures and proceed through distribution systems and associated equipment efficiencies and then plant and heat-rejection systems. Any *interactive effects* on equipment sizing and part load performance of equipment shall be accounted for due to reduced loads on subsequent systems.

8.5.2 Interactive Effects. Energy savings analysis shall include *interactive effects* of all selected *EEMs*.

8.5.3 Optimized Bundling. The *EEMs* recommended in the energy audit report shall consist of an *optimized bundle* of *EEMs*.

8.5.4 Financial Analysis. Financial analysis shall be made using current utility rate charges for the site. For customers who are charged based on time-of-use or peak demand (kW), cost analysis of those *EEMs* shall include appropriate treatment of the costs savings associated with the measures and reflect peak demand or time-of-use cost savings.

8.5.4.1 Nonfederal Facilities. The minimum financial criteria required for reporting include the following:

a. *EEM* implementation cost
b. *Energy cost* savings based on current utility rates
c. Maintenance and operation cost savings (or penalties)
d. *EEM simple payback*
e. *EEM* measure life

~~**8.5.4.2 U.S. Federal Facilities.** Federal facilities shall follow the National Institute of Standards and Technology (NIST) Building Life-Cycle Cost (BLCC) Program.~~

8.5.5 End-Use Analysis. The energy audit shall include an end-use analysis that compares the estimated energy use of the facility after implementation of all selected *EEMs* to historical utility consumption. The intent of this requirement is to ensure that estimates of the base-case end-use energy estimates and potential energy-savings estimates in the energy audit report are reasonable. For buildings without comprehensive metering, an engineering estimate of the historical baseline energy use based on existing building systems and operating conditions may be used for end use analysis only.

8.5.5.1 Requirements for Level 1 Audits. The analysis shall demonstrate that the sum of base-case end-use energy estimates total no more than the historical energy consumption for the end use at the site. This shall be done by completing the following:

a. The historic energy use shall be apportioned into each of the end uses, such as HVAC, lighting, domestic hot-water, and plug loads.

b. The *qualified energy auditor* shall verify that each *EEM* savings estimate is reasonable in comparison to the energy consumption of that end use based on energy consumption survey data or experience with similar sites.

End-use analysis shall be conducted for all fuel types at the site, such as electricity, natural gas, or fuel oil, for which *EEMs* are identified.

Informative Note: For example, if the audit identifies lighting retrofit opportunities, the *energy auditor* shall compare the identified energy savings for those opportunities with the base-case energy use of the facility and demonstrate that they make up a reasonable fraction of the historical electricity consumption at the site. (See Form D in Normative Annex C.)

8.5.5.2 Requirements for Level 2 and Level 3 Audits. The *energy auditor* is required to estimate the energy use of all end uses that individually comprise more than 5% of total historical *building* energy use. The energy estimates for these end uses shall be summed and compared to historical energy consumption for the facility. The sum of the base-case end-use energy estimates must be between 90% and 100% of the historical energy use at the site.

This comparison shall be conducted separately for each fuel type, such as electricity, natural gas, or fuel oil, for which *EEMs* are identified. On-site energy sources such as solar, photovoltaic, geothermal, and wind shall be included.

Correction for historical weather for the base year versus average weather used in *baseline* estimates may be used.

The same energy-use estimates that comprise the end-use analysis shall also be used as the basis for energy savings calculations. The *qualified energy auditor* shall verify that each *EEM* savings estimate is reasonable in comparison to the historical energy consumption of that end use based on energy consumption survey data or experience with similar sites.

The *qualified energy auditor* shall verify that the combined savings from multiple *EEMs* shall take into account *interactive effects* among measures.

Miscellaneous plug loads may be estimated on average equipment power density and *building* area. (See Form E in Normative Annex C.)

8.5.6 Baseline. The *baseline* for energy- and cost-savings estimates shall be taken to be the condition of the existing *building* at the time of the initial comparison with the *building*'s *energy target* or at the time of the initial required audit. The energy-savings estimates shall be calculated as the difference between the energy use of proposed systems and the *baseline* energy-use estimates of those systems.

9. IMPLEMENTATION AND VERIFICATION REQUIREMENTS

9.1 Developing and Implementing an

Energy Management Plan

9.1.1 Requirements. *Buildings* that have an *energy target* shall comply with the requirements of Section 9.1.1.1. *Buildings* that do not have an *energy target* shall comply with the requirements of Section 9.1.1.2. All *buildings* larger than 5000 ft^2 (465 m^2) shall implement an energy management plan as described in Section 5. The energy management plan shall be integrated into the *building*'s *capital management plan* as described in Section 5. The energy management plan shall include the elements listed in Section 5.

9.1.1.1 Buildings with Energy Targets. For *buildings* having *energy targets*, *energy efficiency measures* (*EEMs*) identified from the energy audit shall be implemented in order to meet the *building*'s *energy target*. The Energy Manager will develop a written plan for maintaining the *building*'s *energy-use intensity* (*EUI*) at or below the *energy target*.

Exception: Buildings may demonstrate compliance by implementing all of the EEM's that achieve the financial criteria in Normative Annex X.

9.1.1.2 Buildings without Energy Targets and Buildings without Comprehensive Metering. Buildings that do not have an energy target ~~shall implement the EEMs identified from the energy audit.~~ and buildings without comprehensive metering shall implement all of the EEM's that achieve the financial criteria in Normative Annex X. ~~within four years from the application of compliance.~~

~~**9.1.1.2.1** For nonfederal *buildings*, the *optimized bundle* of *EEMs* shall use all *EEMs* with a combined *simple payback* less than or equal to five years.~~

~~**Exceptions to 9.1.1.2.1:**~~

1. ~~A life-cycle approach may be used with the *optimized bundle* consisting of *EEMs* with an *internal rate of return* (*IRR*) greater than or equal to 20% using BLCC5 with the current BLCC5 defaults. BLCC5 is a free market tool and can be found online.~~
2. ~~*EEMs* that have *simple payback* greater than the effective useful life of the equipment shall be excluded from the *optimized bundle*.~~

~~**9.1.1.2.2** Federal *buildings* shall follow the National Institute of Standards and Technology (NIST) Building Life Cycle Cost (BLCC) Program, and the *optimized bundle* of *EEMs* shall use all *EEMs* with a savings to investment ratio (SIR) to meet federal requirements.~~

9.1.2 Implementing the Energy Management Plan. The sequence in which measures are implemented shall be evaluated so that *EEMs* take into account the impact of previously implemented *EEMs*.

9.1.2.1 Training of Building Staff. An ongoing written training plan shall be implemented. *Building* occupants and staff shall be trained, at a minimum, as established by the operations and maintenance (O&M) program defined in Section 6. **Exception:** *Buildings* 5000 ft^2 (465 m^2) and less.

9.1.2.2 Multiple Buildings. For campuses having multiple *buildings* connected through one billing meter, a multiple *building* plan shall be implemented to coordinate *EEM* implementation among the *buildings* and measurement of the *EUI* of the campus.

9.1.2.3 Implementation and Commissioning of EEMs. *EEMs* shall be implemented and commissioned in accordance with the Washington State Energy Code. The *qualified energy auditor* or *qualified person* shall review the commissioning report and certify that the *EEMs* are functioning as intended.

Informative Note: For guidance on commissioning protocols, refer to ASHRAE Guideline 0, *The Commissioning Process*, and ASHRAE Guideline 1.1, *HVAC&R Technical Requirements for the Commissioning Process*.

9.1.2.4 Energy Efficiency Priorities. Implementation of *EEMs* shall be prioritized to take advantage of the life cycle of *building* systems and to minimize the disruption of *building* occupants. Delayed implementation shall be evaluated using the methodology included in Normative Appendix X and reported in the energy management plan.

9.2 Verification of Implemented EEMs

9.2.1 Verification of Implemented EEMs for Buildings with Energy Targets. Upon implementation of *EEMs*, the *building*'s *EUI* shall be monitored until one full year's data demonstrate that *energy targets* have been met.

9.2.2 Verification of Implemented EEMs for Buildings without Energy Targets. Upon implementation of *EEMs*, the affected end-use systems shall be monitored for one year to verify *EEM* energy savings. The *qualified energy auditor* or *qualified person* shall review the results of the *EEM* energy monitoring and certify that the energy savings of the package of *EEMs* meets or exceeds 75% of the energy savings projected in the energy audit as required.

9.2.3 Verification of Implemented EEMs for Buildings without Comprehensive Energy Meters. Upon implementation of *EEMs*, the affected end-use systems shall be monitored for one year to verify *EEM* energy savings. The *qualified energy auditor* or *qualified person* using methods *International Performance Measurement & Verification Protocol* options A-D.

9.3 Compliance. The *qualified person* shall complete the compliance documentation as required in Section 4.